

STUDIES IN THE LIABEAE (ASTERACEAE). XVII.

TWO NEW SPECIES OF *MUNNOZIA*.

Harold Robinson
Department of Botany
Smithsonian Institution, Washington, D.C., 20560.

Collections of two additional members of the genus *Munnozia* have been seen from the Andes of Ecuador and Peru. The new species both have some features of the subgenus *Kastnera*, but neither belongs to that subgenus. A relationship to the anomalous *M. ferreyrii* H. Robinson of Peru seems most likely.

MUNNOZIA HARLINGII H. Robinson, sp. nov.

Plantae herbaceae perennes decumbentes vel subscandentes ad 1 m vel ultra longae. Caules fulvescentes teretes leniter striati glabri. Folia opposita trans nodis connata, petiolis 1.5-4.5 cm longis late alatis inferne late auriculatis; laminae late deltoideo-ovatae plerumque 7.5-10.5 cm longae et 7-12 cm latae base truncatae in marginis lateralibus denticulatae dentatae et sublobatae apice acutae supra virides sparse pilosae subtus canescentiter arachnoideo-tomentosae base distincte ascendenter trinervatae. Inflorescentiae solum in nodis basilaribus opposite ramosae superne alterne ramosae pauci-capitatae, bracteis sessilibus basilaribus oblongis ad 7 cm longis subfoliiformibus superioribus minutis, pedicellis 10-14 cm longis puberulis distaliter sensim albo-tomentosis. Capitula ca. 12-14 mm alta et radii exceptis 12-17 mm lata; bractee involucri ca. 32 graduatae 3-4-seriatae 4-10 mm longae et ca. 3 mm latae exteriores late oblongae et apice rotundatae interiores argute acutae extus multicostratae plerumque glabrae distaliter sensim fulviores exteriores superne minute scabridulae; fimbriae receptacularum subnullae. Flores radii ca. 25 in capitulo; corollae flavae, tubis ca. 4 mm longis dense pilosis, limbis anguste ellipticis ca. 15 mm longis et 4 mm latis supra basem glabris. Flores disci ca. 45-50 in capitulo; corollae flavae ca. 6.5 mm longae, tubis ca. 2.5 mm longis basi exceptis dense pilosis, faucibus breviter campanulatis ca. 1.5 mm longis glabris, lobis linearibus ca. 2 mm longis et 0.5 mm latis extus glabris subapice breviter lobatis; filamenta in partibus superioribus ca. 0.35 mm longa; thecae ca. 2.5 mm longae nigrae, cellulis endothelialibus in parietibus transversalibus noduliferis; appendices oblongae ca. 0.3 mm longae et ca. 0.22 mm latae. Achaenia submatura ca. 1.5 mm longa glabra; setae pappi sordidae ca. 8 facile deciduae ca. 2 mm longae scabridulae, squamellae nullae? Grana pollinis in diametro ca. 35 μ m.

TYPE: ECUADOR: Loja: Celica-Zapotillo Road, km 6-10, potre-

ros and remnants of seasonal evergreen forest, 1800-1900 m.s.m. Herb, growing on ground. 10.IV.1980. *G.Harling & L.Andersson 18127* (Holotype, GB; isotype, US).

The new species has the superficial look of a member of the subgenus *Kastnera*, and in fact seems very close to *Munnozia asplundii* H.Robinson which is a member of that subgenus from central Ecuador. The new species, however, has polarized thickenings on the endothelial cells of the anthers and has the expanded and somewhat lobed basal wings of the petioles narrowly connate across the nodes as in members of the subgenus *Munnozia*. It also differs from *M. asplundii* in many other details such as the glabrous stems, the lack of auricles on the base of the leaf blade, the distinct trinervation from at or even slightly below the base of the leaf blade, the more numerous rows of involucre bracts distinguished into outer ones with broadly rounded tips and inner ones that are sharply acute, and in the disk corollas the less abruptly campanulate bases of the throats and the glabrous lobes. The lack of obvious chaff on the receptacle, the reduction of the number of pappus setae, and the alternate branching of all but the lowest nodes of the inflorescence seems to indicate closer relationship to *M. ferreyrii* of northern Peru, but the general aspect of the plant shows that the relationship to the latter is not as close as that of the following species.

MUNNOZIA SAGASTEGUII H. Robinson, sp. nov.

Plantae herbaceae perennes ad 0.7 m altae. Caules rubro-tincti leniter hexagonales dense breviter stipitato-glanduliferi. Folia opposita in nodis in discis latis connata, petiolis plerumque 1-3 cm longis inferne sensim late alatis superne vix vel non alatis; laminae late deltoideae plerumque 3.5-8.0 cm longae et 2.5-8.0 cm latae base hastatae in sinibus medialibus breviter acutae et ad marginem trinervatae in marginis basilaribus et lateralibus pluri-mucronato-denticulatae apice et in lobis basilaribus breviter argute acuminatae supra virides pilosae et sparse arachnoideo-pilosulae subtus canescentiter tomentosae et obscure glandulo-punctatae in nervis majoribus sparse pilosae. Inflorescentiae laxae cymosae in nodis basilaribus opposite ramosae in nodis superioribus plerumque alterne ramosae, bracteis basilaribus foliiformibus caetera minoribus maxime 10-12 mm longis linearibus, pedicellis 2-8 cm longis dense breviter stipitato-glanduliferis. Capitula ca. 10-12 mm alta et radii exceptis 8-12 mm lata; bractee involucri ca. 20 inaequales 2-3-seriatae 4-8 mm longae et 2.0-2.5 mm latae oblongo-ovatae apice fulviores breviter vel angustius mucronato-acutae extus glabrae vix vel non striatae; receptacula non squamellifera distincte reticulato-cristata. Flores radii ca. 25 in capitulo; corollae flavae, tubis ca. 2 mm longis dense pilosis, pilis plerumque apice minute glanduliferis, limbis linearibus ca. 13 mm longis et 1.8 mm latis base dense longe stipitato-glanduliferis aliter subtus minute breviter glanduliferis. Flores disci 25-30 in capitulo; corollae

flavae ca. 6.5 mm longae, tubis 1.5-2.3 mm longis angustis dense longe stipitato-glanduliferis et in parte eglandulose pilosis, faucibus campanulatis ca. 4.5 mm longis base abrupte latioribus pauce pilosis et breviter glanduliferis, lobis linearibus ca. 3 mm longis et 0.45 mm latis extus perpauce breviter glanduliferis apice extus prologatis; filamenta in partibus superioribus ca. 0.35 mm longa; thecae ca. 3 mm longae nigrescentes, cellulis endothecialibus in parietibus transversalibus noduliferis; appendices antherarum ovaes ca. 0.6 mm longae et 0.23 mm latae. Achaenia submatura 1.3 mm longa dense breviter setulifera; setae pappi nulli, squamellis distinctis numerosis brevibus ad 0.2 mm longis acutis. Grana pollinis in diametro ca. 37 μ m.

TYPE: PERU: Cajamarca: Prov. Contumaza, Chausivólán, Guzmango. 2900 m.s.m. ladera. Hierba, flores amarillas. 31 Mayo 1959. *A. Sagastegui* A. 2980 (Holotype, US).

The new species is related to *Munnozia ferreyrii* which has the same general habit with the same type of mostly alternate branching of the inflorescence, the same lack of bristles in the pappus, six ribs on the achene and no obvious chaff on the receptacle. The species differs structurally in the basal sinus of the leaf blades reaching to the basal trinervation, by the broadly spreading hastate and acuminate basal lobes of the leaf, by the larger heads with essentially smooth and glabrous involucre bracts, by the larger disk corollas with longer more glabrous lobes, by the mostly glandular tips of the hairs on the tubes of the corollas, and by the separation of the squamellae of the pappus. The new species is also distinct in geography, being found on the Pacific slope of the outer Andean range in Cajamarca. The related *M. ferreyrii* occurs in eastern Cajamarca and farther eastward in Amazonas in the Amazonian drainage.

The lack of long chaff on the receptacle might seem to indicate that *Munnozia ferreyrii* and the present two species are related to the subgenus *Kastnera* which they also resemble in some aspects of their habit. Nevertheless, the fused leaf bases across the nodes and the polarized thickenings on the endothecial cells indicate that there is no close relationship to *Kastnera*.

The greater number of collections now known for *Munnozia ferreyrii* includes some variation. Most collections from Amazonas and those from Cajamarca are like the type with more remote leaf dentation, less densely pubescent leaves, and dense stipitate glandular pubescence on the involucre bracts. Two specimens from Amazonas, *King & Bishop 9147* and *Dillon & Turner 1724* (cytological voucher) have a tendency for denser dentation and pubescence on the leaves and have only evanescent arachnoid tomentum on the involucre bracts.



FLORA OF ECUADOR

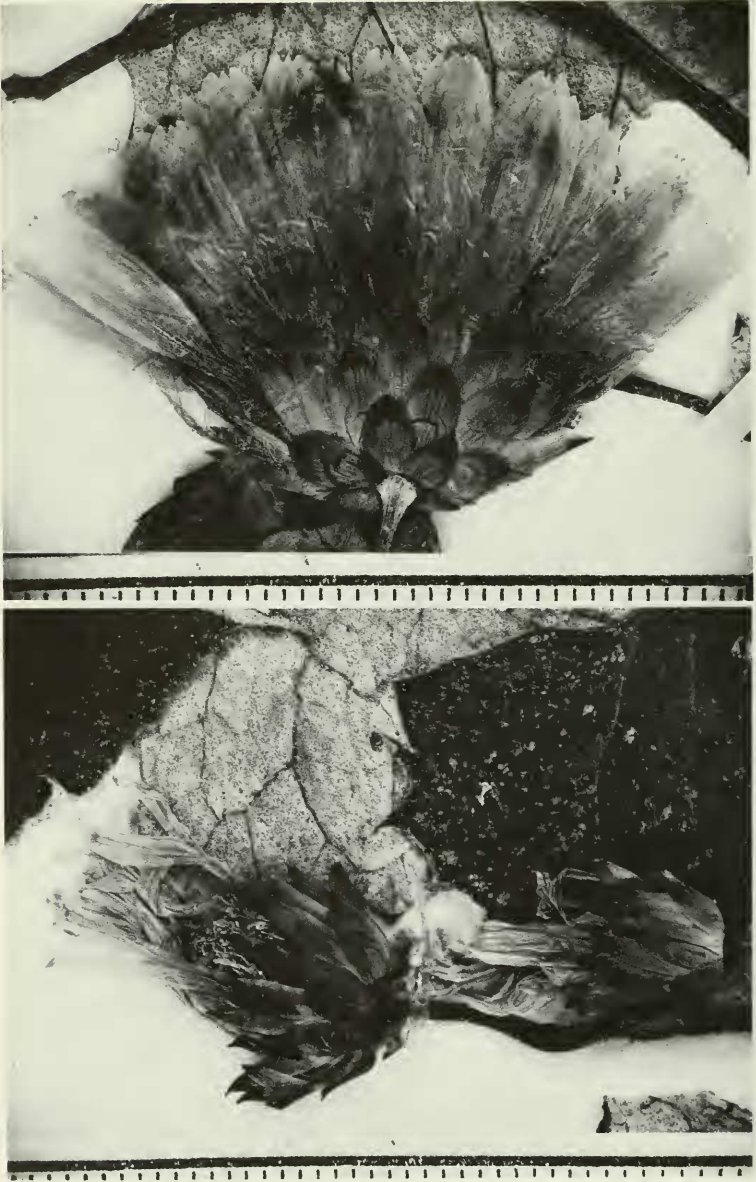
Munnozia harlingii H. Robinson, Holotype, Göteborgs Universitet Botaniska Museet. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



HERBARIUM OF THE UNIVERSITY OF CALIFORNIA
 UNIVERSITY AND Jepson Herbaria
 FLORA PERUANA
Munnozia sagasteguii
 Robinson
 27

2542035 A
 NATIONAL HERBARIUM

Munnozia sagasteguii H. Robinson, Holotype, United States National Herbarium.



Enlargements of heads. Top. *Munnozia harlingii*. Bottom. *M. sagasteguii*.